

REPLACED BY
ART 34 AMDT

10/526151

Rec'd PCT/PTO 28 FEB 2005

seqlist.txt

SEQUENCE LISTING

<110> ASHMAN, Claire
ELLIS, Jonathan Henry

<120> VACCINE COMPRISING IL-13 AND AN ADJUVANT

<130> PG4939A

<140> Not Yet Assigned

<141> 2005-02-28

<150> PCT/GB03/003721

<151> 2003-08-28

<150> GB 0304672.9

<151> 2003-02-28

<150> GB 0220211.7

<151> 2002-08-30

<160> 68

<170> FastSEQ for windows Version 4.0

<210> 1

<211> 112

<212> PRT

<213> Homo Sapien IL-13

<400> 1

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Val | Pro | Pro | Ser | Thr | Ala | Leu | Arg | Glu | Leu | Ile | Glu | Glu | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Val | Asn | Ile | Thr | Gln | Asn | Gln | Lys | Ala | Pro | Leu | Cys | Asn | Gly | Ser | Met |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Val | Trp | Ser | Ile | Asn | Leu | Thr | Ala | Gly | Met | Tyr | Cys | Ala | Ala | Leu | Glu |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ser | Leu | Ile | Asn | Val | Ser | Gly | Cys | Ser | Ala | Ile | Glu | Lys | Thr | Gln | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Met | Leu | Ser | Gly | Phe | Cys | Pro | His | Lys | Val | Ser | Ala | Gly | Gln | Phe | Ser |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Ser | Leu | His | Val | Arg | Asp | Thr | Lys | Ile | Glu | Val | Ala | Gln | Phe | Val | Lys |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Asp | Leu | Leu | Leu | His | Leu | Lys | Lys | Leu | Phe | Arg | Glu | Gly | Arg | Phe | Asn |
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<210> 2

<211> 111

<212> PRT

<213> Murine IL-13

<400> 2

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Val | Pro | Arg | Ser | Val | Ser | Leu | Pro | Leu | Thr | Leu | Lys | Glu | Leu |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ile | Glu | Glu | Leu | Ser | Asn | Ile | Thr | Gln | Asp | Gln | Thr | Pro | Leu | Cys | Asn |
| | | | 20 | | | | | 25 | | | | | 30 | | |
| Gly | Ser | Met | Val | Trp | Ser | Val | Asp | Leu | Ala | Ala | Gly | Gly | Phe | Cys | Val |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Leu | Asp | Ser | Leu | Thr | Asn | Ile | Ser | Asn | Cys | Asn | Ala | Ile | Tyr | Arg |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Thr | Gln | Arg | Ile | Leu | His | Gly | Leu | Cys | Asn | Arg | Lys | Ala | Pro | Thr | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Val | Ser | Ser | Leu | Pro | Asp | Thr | Lys | Ile | Glu | Val | Ala | His | Phe | Ile | Thr |
| | | | | 85 | | | | | 90 | | | | | 95 | |
| Lys | Leu | Leu | Ser | Tyr | Thr | Lys | Gln | Leu | Phe | Arg | His | Gly | Pro | Phe | |

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seqlist.txt
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110

<210> 3
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 <212> PRT
 <213> Porcine IL-13

<400> 3
 Gly Pro Val Pro Pro His Ser Thr Ala Leu Lys Glu Leu Ile Glu Glu
 1 5 10 15
 Leu Val Asn Ile Thr Gln Asn Gln Lys Thr Pro Leu Cys Asn Gly Ser
 20 25 30
 Met Val Trp Ser Val Asn Leu Thr Thr Ser Met Gln Tyr Cys Ala Ala
 35 40 45
 Leu Glu Ser Leu Ile Asn Ile Ser Asp Cys Ser Ala Ile Gln Lys Thr
 50 55 60
 Gln Arg Met Leu Ser Ala Leu Cys Ser His Lys Pro Pro Ser Glu Gln
 65 70 75 80
 Val Pro Gly Lys His Ile Arg Asp Thr Lys Ile Glu Val Ala Gln Phe
 85 90 95
 Val Lys Asp Leu Leu Lys His Leu Arg Met Ile Phe Arg His Gly
 100 105 110

<210> 4
 <211> 112
 <212> PRT
 <213> Bovine IL-13

<400> 4
 Ser Pro Val Pro Ser Ala Thr Ala Leu Lys Glu Leu Ile Glu Glu Leu
 1 5 10 15
 Val Asn Ile Thr Gln Asn Gln Lys Val Pro Leu Cys Asn Gly Ser Met
 20 25 30
 Val Trp Ser Leu Asn Leu Thr Ser Met Tyr Cys Ala Leu Asp
 35 40 45
 Ser Leu Ile Ser Ile Ser Asn Cys Ser Val Ile Gln Arg Thr Lys Lys
 50 55 60
 Met Leu Asn Ala Leu Cys Pro His Lys Pro Ser Ala Lys Gln Val Ser
 65 70 75 80
 Ser Glu Tyr Val Arg Asp Thr Lys Ile Glu Val Ala Gln Phe Leu Lys
 85 90 95
 Asp Leu Leu Arg His Ser Arg Ile Val Phe Arg Asn Glu Arg Phe Asn
 100 105 110

<210> 5
 <211> 111
 <212> PRT
 <213> Canine IL-13

<400> 5
 Ser Pro Val Thr Pro Ser Pro Thr Leu Lys Glu Leu Ile Glu Glu Leu
 1 5 10 15
 Val Asn Ile Thr Gln Asn Gln Ala Ser Leu Cys Asn Gly Ser Met Val
 20 25 30
 Trp Ser Val Asn Leu Thr Ala Gly Met Tyr Cys Ala Ala Leu Glu Ser
 35 40 45
 Leu Ile Asn Val Ser Asp Cys Ser Ala Ile Gln Arg Thr Gln Arg Met
 50 55 60
 Leu Lys Ala Leu Cys Ser Gln Lys Pro Ala Ala Gly Gln Ile Ser Ser
 65 70 75 80
 Glu Arg Ser Arg Asp Thr Lys Ile Glu Val Ile Gln Leu Val Lys Asn
 85 90 95
 Leu Leu Thr Tyr Val Arg Gly Val Tyr Arg His Gly Asn Phe Arg
 100 105 110

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seqlist.txt

<210> 6
 <211> 111 ART 34 AMDT
 <212> PRT
 <213> Rat IL-13

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 Gly Pro Val Arg Arg Ser Thr Ser Pro Pro Val Ala Leu Arg Glu Leu
 1 5 10 15
 Ile Glu Glu Leu Ser Asn Ile Thr Gln Asp Gln Lys Thr Ser Leu Cys
 20 25 30
 Asn Ser Ser Met Val Trp Ser Val Asp Leu Thr Ala Gly Phe Cys
 35 40 45
 Ala Ala Leu Glu Ser Leu Thr Asn Ile Ser Ser Cys Asn Ala Ile His
 50 55 60
 Arg Thr Gln Arg Ile Leu Asn Gly Leu Cys Asn Gln Lys Ala Ser Asp
 65 70 75 80
 Val Ala Ser Ser Pro Asp Thr Lys Ile Glu Val Ala Gln Phe Ile
 85 90 95
 Ser Lys Leu Leu Asn Tyr Ser Lys Gln Leu Phe Arg Tyr Gly His
 100 105 110

<210> 7
 <211> 111
 <212> PRT
 <213> Cynomolgus IL-13

<400> 7
 Ser Pro Val Pro Pro Ser Thr Ala Leu Lys Glu Leu Ile Glu Glu Leu
 1 5 10 15
 Val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met
 20 25 30
 Val Trp Ser Ile Asn Leu Thr Ala Gly Val Tyr Cys Ala Ala Leu Glu
 35 40 45
 Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Glu Lys Thr Gln Arg
 50 55 60
 Met Leu Asn Gly Phe Cys Pro His Lys Val Ser Ala Gly Gln Phe Ser
 65 70 75 80
 Ser Leu Arg Val Arg Asp Thr Lys Ile Glu Val Ala Gln Phe Val Lys
 85 90 95
 Asp Leu Leu His Leu Lys Lys Leu Phe Arg Glu Gly Gln Phe Asn
 100 105 110

<210> 8
 <211> 112
 <212> PRT
 <213> Rhesus IL-13

<400> 8
 Ser Pro Val Pro Arg Ser Thr Ala Leu Lys Glu Leu Ile Glu Glu Leu
 1 5 10 15
 Val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met
 20 25 30
 Val Trp Ser Ile Asn Leu Thr Ala Gly Val Tyr Cys Ala Ala Leu Glu
 35 40 45
 Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Glu Lys Thr Gln Arg
 50 55 60
 Met Leu Asn Gly Phe Cys Pro His Lys Val Ser Ala Gly Gln Phe Ser
 65 70 75 80
 Ser Leu Arg Val Arg Asp Thr Lys Ile Glu Val Ala Gln Phe Val Lys
 85 90 95
 Asp Leu Leu Val His Leu Lys Lys Leu Phe Arg Glu Gly Arg Phe Asn
 100 105 110

<210> 9

<211> 112
<212> PRT
<213> Marmoset IL-13

<400> 9
Gly Pro Val Pro Pro Tyr Thr Ala Leu Lys Glu Leu Ile Glu Glu Leu
1 5 10 15
Val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met
20 25 30
Val Trp Ser Ile Asn Met Thr Ala Gly Val Tyr Cys Ala Ala Leu Glu
35 40 45
Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Glu Lys Thr Gln Arg
50 55 60
Met Leu Ser Gly Phe Cys Pro His Lys Val Ser Ala Gly Gln Phe Ser
65 70 75 80
Ser Leu Leu Val Arg Asp Thr Lys Ile Glu Val Ala Gln Phe Val Lys
85 90 95
Asp Leu Leu Arg His Leu Arg Lys Leu Phe His Gln Gly Thr Phe Asn
100 105 110

<210> 10
<211> 112
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<213> Artificial Sequence

<220>
<223>Chimaeric Homo Sapien IL-13

<400> 10
Gly Pro Val Pro Pro Ser Ser Ala Leu Lys Glu Leu Ile Glu Glu Leu
1 5 10 15
Ala Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met
20 25 30
Val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr Cys Ala Ala Leu Asp
35 40 45
Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Glu Arg Thr Gln Arg
50 55 60
Ile Leu Ser Ala Phe Cys Pro His Lys Val Ser Ala Gly Gln Phe Ser
65 70 75 80
Ser Leu Arg Val Arg Asp Thr Lys Ile Glu Val Ala Gln Phe Val Thr
85 90 95
Asp Leu Leu Val His Leu Lys Arg Leu Phe Arg Gln Gly Thr Phe Asn
100 105 110

<210> 11
<211> 121
<212> PRT
<213> Artificial Sequence

<220>
<223>Chimaeric Homo Sapien IL-13

<400> 11
Gly Pro Val Pro Pro Ser Thr Ala Leu Arg Glu Leu Ile Glu Glu Leu
1 5 10 15
Val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met
20 25 30
Val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr Cys Ala Ala Leu Glu
35 40 45
Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile Glu Lys Thr Gln Arg
50 55 60
Met Leu Gly Gly Phe Cys Pro His Lys Phe Asn Asn Phe Thr Val Ser
65 70 75 80
Phe Trp Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu Asp Thr
85 90 95
Lys Ile Glu Val Ala Gln Phe Val Lys Asp Leu Leu Leu His Leu Lys

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ART 84 AND

seqlist.txt

Lys Leu Phe Arg Glu Gly Arg Phe Asn 110
115 120

<210> 12
<211> 133
<212> PRT
<213> Artificial Sequence

<220>
<223>Chimaeric Homo Sapien IL-13

<400> 12
Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
1 5 10 15
Ala Ser His Leu Glu Gly Pro Val Pro Ser Thr Ala Leu Arg Glu
20 25 30
Leu Ile Glu Glu Leu Val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu
35 40 45
Cys Asn Gly Ser Met Val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr
50 55 60
Cys Ala Ala Leu Glu Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile
65 70 75 80
Glu Lys Thr Gln Arg Met Leu Gly Gly Phe Cys Pro His Lys Val Ser
85 90 95
Ala Gly Gln Phe Ser Ser Leu His Val Arg Asp Thr Lys Ile Glu Val
100 105 110
Ala Gln Phe Val Lys Asp Leu Leu Leu His Leu Lys Lys Leu Phe Arg
115 120 125
Glu Gly Arg Phe Asn
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<210> 13
<211> 123
<212> PRT
<213> Artificial Sequence

<220>
<223>Chimaeric Murine IL-13

<400> 13
Gly Pro Val Pro Arg Ser Val Ser Leu Pro Leu Thr Leu Lys Glu Leu
1 5 10 15
Ile Glu Glu Leu Ser Asn Ile Thr Gln Asp Gln Thr Pro Leu Cys Asn
20 25 30
Gly Ser Met Val Trp Ser Val Asp Leu Ala Ala Gly Gly Phe Cys Val
35 40 45
Ala Leu Asp Ser Leu Thr Asn Ile Ser Asn Cys Asn Ala Ile Tyr Arg
50 55 60
Thr Gln Arg Ile Leu His Gly Leu Cys Asn Arg Lys Phe Asn Asn Phe
65 70 75 80
Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser Ala Ser His Leu
85 90 95
Glu Asp Thr Lys Ile Glu Val Ala His Phe Ile Thr Lys Leu Leu Ser
100 105 110
Tyr Thr Lys Gln Leu Phe Arg His Gly Pro Phe
115 120

<210> 14
<211> 132
<212> PRT
<213> Artificial Sequence

<220>
<223>Chimaeric Murine IL-13

<400> 14

Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
1 5 10 15
Ala Ser His Leu Glu Gly Pro Val Pro Arg Ser Val Ser Leu Pro Leu
20 25 30
Thr Leu Lys Glu Leu Ile Glu Glu Leu Ser Asn Ile Thr Gln Asp Gln
35 40 45
Thr Pro Leu Cys Asn Gly Ser Met Val Trp Ser Val Asp Leu Ala Ala
50 55 60
Gly Gly Phe Cys Val Ala Leu Asp Ser Leu Thr Asn Ile Ser Asn Cys
65 70 75 80
Asn Ala Ile Tyr Arg Thr Gln Arg Ile Leu His Gly Leu Cys Asn Arg
85 90 95
Lys Ala Pro Thr Thr Val Ser Ser Leu Pro Asp Thr Lys Ile Glu Val
100 105 110
Ala His Phe Ile Thr Lys Leu Leu Ser Tyr Thr Lys Gln Leu Phe Arg
115 120 125
His Gly Pro Phe
130

<210> 15

<211> 132

<212> PRT

<213> Artificial Sequence

<220>

<223>Chimaeric Murine IL-13

<400> 15

Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
1 5 10 15
Ala Ser His Leu Glu Gly Pro Val Pro Arg Ser Val Ser Leu Pro Val
20 25 30
Thr Leu Lys Glu Leu Ile Glu Glu Leu Thr Asn Ile Thr Gln Asp Gln
35 40 45
Thr Pro Leu Cys Asn Gly Ser Met Val Trp Ser Val Asp Leu Ala Ala
50 55 60
Gly Gly Phe Cys Val Ala Leu Asp Ser Leu Thr Asn Ile Ser Asn Cys
65 70 75 80
Asn Ala Ile Phe Arg Thr Gln Arg Ile Leu His Ala Leu Cys Asn Arg
85 90 95
Lys Ala Pro Thr Thr Val Ser Ser Leu Pro Asp Thr Lys Ile Glu Val
100 105 110
Ala His Phe Ile Thr Lys Leu Leu Thr Tyr Thr Lys Asn Leu Phe Arg
115 120 125
Arg Gly Pro Phe
130

<210> 16

<211> 249

<212> PRT

<213> Artificial Sequence

<220>

<223>Chimaeric Homo Sapien IL-13

<400> 16

Tyr Val His Ser Asp Gly Ser Tyr Pro Lys Asp Lys Phe Glu Lys Ile
1 5 10 15
Asn Gly Thr Trp Tyr Tyr Phe Asp Ser Ser Gly Tyr Met Leu Ala Asp
20 25 30
Arg Trp Arg Lys His Thr Asp Gly Asn Trp Tyr Trp Phe Asp Asn Ser
35 40 45
Gly Glu Met Ala Thr Gly Trp Lys Lys Ile Ala Asp Lys Trp Tyr Tyr
50 55 60

seqlist.txt

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Phe Asn Glu Glu Gly Ala Met Lys Thr Gly Trp Val Lys Tyr Lys Asp
65      70      75      80
Thr Trp Tyr Tyr Leu Asp Ala Lys Glu Gly Ala Met Gln Tyr Ile Lys
85      90      95
Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu Gly Val Met Val Ser Asn
100      105      110
Ala Phe Ile Gln Ser Ala Asp Gly Thr Gly Trp Tyr Tyr Leu Lys Pro
115      120      125
Asp Gly Thr Leu Ala Asp Arg Pro Glu Gly Pro Val Pro Pro Ser Ser
130      135      140
Ala Leu Lys Glu Leu Ile Glu Glu Leu Ala Asn Ile Thr Gln Asn Gln
145      150      155
Lys Ala Pro Leu Cys Asn Gly Ser Met Val Trp Ser Ile Asn Leu Thr
165      170      175
Ala Gly Met Tyr Cys Ala Ala Leu Asp Ser Leu Ile Asn Val Ser Gly
180      185      190
Cys Ser Ala Ile Glu Arg Thr Gln Arg Ile Leu Ser Ala Phe Cys Pro
195      200      205
His Lys Val Ser Ala Gly Gln Phe Ser Ser Leu Arg Val Arg Asp Thr
210      215      220
Lys Ile Glu Val Ala Gln Phe Val Thr Asp Leu Leu Val His Leu Lys
225      230      235
Arg Leu Phe Arg Gln Gly Thr Phe Asn
245

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<210> 17
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 <212> PRT
 <213> Artificial Sequence

<220>
 <223>Chimaeric Homo Sapien IL-13

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<400> 17
Ser Ser His Ser Ser Asn Met Ala Asn Thr Gln Met Lys Ser Asp Lys
1      5      10      15
Ile Ile Ile Ala His Arg Gly Ala Ser Gly Tyr Leu Pro Glu His Thr
20      25      30
Leu Glu Ser Lys Ala Leu Ala Phe Ala Gln Gln Ala Asp Tyr Leu Glu
35      40      45
Gln Asp Leu Ala Met Thr Lys Asp Gly Arg Leu Val Val Ile His Asp
50      55      60
His Phe Leu Asp Gly Leu Thr Asp Val Ala Lys Lys Phe Pro His Arg
65      70      75      80
His Arg Lys Asp Gly Arg Tyr Tyr Val Ile Asp Phe Thr Leu Lys Glu
85      90      95
Ile Gln Ser Leu Glu Met Thr Glu Asn Phe Glu Thr Gly Pro Val Pro
100      105      110
Pro Ser Ser Ala Leu Lys Glu Leu Ile Glu Glu Leu Ala Asn Ile Thr
115      120      125
Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met Val Trp Ser Ile
130      135      140
Asn Leu Thr Ala Gly Met Tyr Cys Ala Ala Leu Asp Ser Leu Ile Asn
145      150      155
Val Ser Gly Cys Ser Ala Ile Glu Arg Thr Gln Arg Ile Leu Ser Ala
165      170      175
Phe Cys Pro His Lys Val Ser Ala Gly Gln Phe Ser Ser Leu Arg Val
180      185      190
Arg Asp Thr Lys Ile Glu Val Ala Gln Phe Val Thr Asp Leu Leu Val
195      200      205
His Leu Lys Arg Leu Phe Arg Gln Gly Thr Phe Asn
210      215      220

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<210> 18
 <211> 133
 <212> PRT

seqlist.txt

<213> Artificial Sequence

<220>

<223>Chimaeric Homo Sapien IL-13

<400> 18

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Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
 1      5      10      15
Ala Ser His Leu Glu Gly Pro Val Pro Ser Ser Ala Leu Lys Glu
      20      25      30
Leu Ile Glu Glu Leu Ala Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu
      35      40      45
Cys Asn Gly Ser Met Val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr
      50      55      60
Cys Ala Ala Leu Asp Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile
      65      70      75      80
Glu Arg Thr Gln Arg Ile Leu Ser Ala Phe Cys Pro His Lys Val Ser
      85      90      95
Ala Gly Gln Phe Ser Ser Leu Arg Val Arg Asp Thr Lys Ile Glu Val
      100      105      110
Ala Gln Phe Val Thr Asp Leu Leu Val His Leu Lys Arg Leu Phe Arg
      115      120      125
Gln Gly Thr Phe Asn
      130

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<210> 19

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223>Chimaeric Homo Sapien IL-13

<400> 19

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Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
 1      5      10      15
Ala Ser His Leu Glu Gly Pro Val Pro Pro Ser Ser Ala Leu Lys Ile
      20      25      30
Leu Ile Glu Glu Leu Ala Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu
      35      40      45
Cys Asn Gly Ser Met Val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr
      50      55      60
Cys Ala Ala Leu Asp Ser Leu Ile Asn Val Ser Gly Cys Ser Ala Ile
      65      70      75      80
Glu Arg Thr Gln Arg Ile Leu Ser Ala Phe Cys Pro His Lys Val Ser
      85      90      95
Ala Gly Gln Phe Ser Ser Leu Arg Val Arg Asp Thr Lys Ile Glu Val
      100      105      110
Ala Gln Phe Val Thr Asp Leu Leu Val His Leu Lys Arg Leu Phe Arg
      115      120      125
Gln Gly Thr Phe Asn
      130

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<210> 20

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223>Chimaeric Homo Sapien IL-13

<400> 20

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Gly Pro Val Pro Pro Ser Ser Ala Leu Lys Glu Leu Ile Glu Glu Leu
 1      5      10      15
Ala Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met
      20      25      30

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val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr Cys Ala Ala Leu Asp
    35      40      45
Ser Leu Ile Asn val Ser Gly Cys Ser Ala Ile Glu Arg Thr Gln Arg
    50      55      60
Ile Leu Ser Ala Phe Cys Pro His Lys val Ser Ala Gly Gln Phe Ser
65      70      75      80
Ser Leu His val Arg Asp Thr Lys Ile Glu val Ala Gln Phe val Thr
    85      90      95
Asp Leu Leu val His Leu Lys Arg Leu Phe Arg Gln Gly Arg Phe Asn
    100     105     110

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<210> 21
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223>Chimaeric Homo Sapien IL-13

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<400> 21
Gly Pro val Pro Pro Ser Thr Ala Leu Lys Glu Leu Ile Glu Glu Leu
1      5      10      15
val Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met
    20      25      30
val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr Cys Ala Ala Leu Asp
    35      40      45
Ser Leu Ile Asn val Ser Gly Cys Ser Ala Ile Glu Arg Thr Gln Arg
    50      55      60
Ile Leu Ser Ala Phe Cys Pro His Lys val Ser Ala Gly Gln Phe Ser
65      70      75      80
Ser Leu Arg val Arg Asp Thr Lys Ile Glu val Ala Gln Phe val Thr
    85      90      95
Asp Leu Leu val His Leu Lys Lys Leu Phe Arg Gln Gly Thr Phe Asn
    100     105     110

```

<210> 22
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223>Chimaeric Homo Sapien IL-13

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<400> 22
Gly Pro val Pro Pro Ser Ser Ala Leu Arg Glu Leu Ile Glu Glu Leu
1      5      10      15
Ala Asn Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met
    20      25      30
val Trp Ser Ile Asn Leu Thr Ala Gly Met Tyr Cys Ala Ala Leu Glu
    35      40      45
Ser Leu Ile Asn val Ser Gly Cys Ser Ala Ile Asp Lys Thr Gln Arg
    50      55      60
Met Leu Ser Ala Phe Cys Pro His Lys val Ser Ala Gly Gln Phe Ser
65      70      75      80
Ser Leu His val Arg Asp Thr Lys Ile Glu val Ala Gln Phe val Lys
    85      90      95
Asp Leu Leu val His Leu Lys Arg Leu Phe Arg Asp Gly Arg Phe Asn
    100     105     110

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<210> 23
 <211> 111
 <212> PRT
 <213> Artificial Sequence

<220>

seqlist.txt

<223>Chimaeric Homo Sapien IL-13

<400> 23

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Val | Pro | Arg | Ser | Val | Ser | Leu | Pro | Leu | Thr | Leu | Arg | Glu | Leu |
| 1 | | | | 5 | | | | 10 | | | | | | 15 | |
| Ile | Glu | Glu | Leu | Val | Asn | Ile | Thr | Gln | Asp | Gln | Thr | Pro | Leu | Cys | Asn |
| | | 20 | | | | | | 25 | | | | | 30 | | |
| Gly | Ser | Met | Val | Trp | Ser | Val | Asp | Leu | Ala | Ala | Gly | Gly | Tyr | Cys | Ala |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Ala | Leu | Glu | Ser | Leu | Thr | Asn | Ile | Ser | Asn | Cys | Asn | Ala | Ile | Glu | Lys |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Thr | Gln | Arg | Met | Leu | Gly | Gly | Leu | Cys | Asn | Arg | Lys | Ala | Pro | Thr | Thr |
| 65 | | | | | 70 | | | | | 75 | | | | 80 | |
| Val | Ser | Ser | Leu | Pro | Asp | Thr | Lys | Ile | Glu | Val | Ala | Gln | Phe | Val | Lys |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Asp | Leu | Leu | Ser | Tyr | Thr | Lys | Gln | Leu | Phe | Arg | His | Gly | Pro | Phe | |
| | | | 100 | | | | | 105 | | | | | 110 | | |

<210> 24

<211> 16

<212> PRT

<213> Homo Sapien

<400> 24

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Ser | Thr | Ala | Leu | Arg | Glu | Leu | Ile | Glu | Glu | Leu | Val | Asn | Ile | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |

<210> 25

<211> 10

<212> PRT

<213> Homo Sapien

<400> 25

| | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Tyr | Cys | Ala | Ala | Leu | Glu | Ser | Leu | Ile |
| 1 | | | | 5 | | | | | 10 |

<210> 26

<211> 9

<212> PRT

<213> Homo Sapien

<400> 26

| | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Thr | Gln | Arg | Met | Leu | Ser | Gly | Phe |
| 1 | | | | 5 | | | | |

<210> 27

<211> 17

<212> PRT

<213> Homo Sapien

<400> 27

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Gln | Phe | Val | Lys | Asp | Leu | Leu | Leu | His | Leu | Lys | Lys | Leu | Phe | Arg |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Glu | | | | | | | | | | | | | | | |

<210> 28

<211> 8

<212> PRT

<213> Homo Sapien

<400> 28

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Pro | Val | Pro | Pro | Ser | Thr | Ala |
|-----|-----|-----|-----|-----|-----|-----|-----|

1

5

<210> 29
<211> 24
<212> PRT
<213> Homo Sapien

<400> 29
Ile Thr Gln Asn Gln Lys Ala Pro Leu Cys Asn Gly Ser Met Val Trp
1 5 10 15
Ser Ile Asn Leu Thr Ala Gly Met
20

<210> 30
<211> 7
<212> PRT
<213> Homo Sapien

<400> 30
Ile Asn Val Ser Gly Cys Ser
1 5

<210> 31
<211> 19
<212> PRT
<213> Homo Sapien

<400> 31
Phe Cys Pro His Lys Val Ser Ala Gly Gln Phe Ser Ser Leu His Val
1 5 10 15
Arg Asp Thr

<210> 32
<211> 13
<212> PRT
<213> Homo Sapien

<400> 32
Leu His Leu Lys Lys Leu Phe Arg Glu Gly Arg Phe Asn
1 5 10

<210> 33
<211> 14
<212> PRT
<213> Clostridium tetani

<400> 33
Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu
1 5 10

<210> 34
<211> 21
<212> PRT
<213> Clostridium tetani

<400> 34
Phe Asn Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser
1 5 10 15
Ala Ser His Leu Glu
20

<210> 35
<211> 21
<212> PRT
<213> Plasmodium falciparum

<400> 35
Asp Ile Glu Lys Lys Ile Ala Lys Met Glu Lys Ala Ser Ser Val Phe
1 5 10 15
Asn Val Val Asn Ser
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<210> 36
<211> 15
<212> PRT
<213> Paramyxoviridae Morbillivirus

<400> 36
Leu Ser Glu Ile Lys Gly Val Ile Val His Arg Leu Glu Gly Val
1 5 10 15

<210> 37
<211> 15
<212> PRT
<213> Hepatitis B virus

<400> 37
Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile Pro Gln Ser Leu Asp
1 5 10 15

<210> 38
<211> 19
<212> PRT
<213> Corynebacterium diphtheriae

<400> 38
Pro Val Phe Ala Gly Ala Asn Tyr Ala Ala Trp Ala Val Asn Val Ala
1 5 10 15
Gln Val Ile

<210> 39
<211> 20
<212> PRT
<213> Corynebacterium diphtheriae

<400> 39
Val His His Asn Thr Glu Glu Ile Val Ala Gln Ser Ile Ala Leu Ser
1 5 10 15
Ser Leu Met Val
20

<210> 40
<211> 20
<212> PRT
<213> Corynebacterium diphtheriae

<400> 40
Gln Ser Ile Ala Leu Ser Ser Leu Met Val Ala Gln Ala Ile Pro Leu
1 5 10 15
Val Gly Glu Leu
20

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ART 34 AMDT

seqlist.txt

<210> 41
<211> 20
<212> PRT
<213> Corynebacterium diphtheriae

<400> 41
Val Asp Ile Gly Phe Ala Ala Tyr Asn Phe Val Glu Ser Ile Ile Asn
1 5 10 15
Leu Phe Gln Val
20

<210> 42
<211> 20
<212> PRT
<213> Corynebacterium diphtheriae

<400> 42
Gln Gly Glu Ser Gly His Asp Ile Lys Ile Thr Ala Glu Asn Thr Pro
1 5 10 15
Leu Pro Ile Ala
20

<210> 43
<211> 20
<212> PRT
<213> Corynebacterium diphtheriae

<400> 43
Gly Val Leu Leu Pro Thr Ile Pro Gly Lys Leu Asp Val Asn Lys Ser
1 5 10 15
Lys Thr His Ile
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<210> 44
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> artificial immunostimulatory oligonucleotide

<400> 44
tccatgacgt tcctgacgtt 20

<210> 45
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> artificial immunostimulatory oligonucleotide

<400> 45
tctcccagcg tgcgccat 18

<210> 46
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> artificial immunostimulatory oligonucleotide

<400> 46

accgatgacg tcgccggtga cggcaccacg 30

<210> 47
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> artificial immunostimulatory oligonucleotide

<400> 47
tcgtcgtttt gtcgttttgt cggt 24

<210> 48
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> artificial immunostimulatory oligonucleotide

<400> 48
tccatgacgt tcctgatgct 20

<210> 49
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 49
tgtgatgttg accagctcct caatgagctc cctaagggtc agagggagag acacagatct 60
tggcaccggc cc 72

<210> 50
<211> 73
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 50
aggagctggt caacatcaca caagaccaga ctcccctgtg caacggcagc atggtatgga 60
gtgtggacct ggc 73

<210> 51
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 51
gcaattggag atgttggtca gggattccag ggctgcacag tacccgccag cggccaggctc 60
cacactccat ac 72

<210> 52
<211> 73
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

seqlist.txt

<400> 52
tgaccaacat ctccaattgc aatgccatcg agaagaccca gaggatgctg ggcggactct 60
gtaaccgcaa ggc 73

<210> 53
<211> 72
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 53
aaactgggcc acctcgattt tggatcggg gaggctggag accgtagtgg gggccttgcg 60
gttacagagt cc 72

<210> 54
<211> 71
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 54
aaatcgaggt ggcccagttt gtaaaggacc tgctcagcta cacaaagcaa ctgtttcgcc 60
acggcccctt c 71

<210> 55
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 55
cgcggattcg ggccggtgcc aagatctg 28

<210> 56
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 56
ctccgctcga gtcgacttag aaggggccgt ggcgaaa 37

<210> 57
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> primer

<400> 57
cgcggatccg ggccggtgcc aagatctg 28

<210> 58
<211> 6
<212> PRT
<213> Homo Sapien IL-13

<400> 58
Glu Leu Ile Glu Glu Leu



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5

<210> 59
<211> 4
<212> PRT
<213> Homo Sapien IL-13

<400> 59
Asn Ile Thr Gln
1

<210> 60
<211> 5
<212> PRT
<213> Homo Sapien IL-13

<400> 60
Ser Met Val Trp Ser
1 5

<210> 61
<211> 7
<212> PRT
<213> Homo Sapien IL-13

<400> 61
Asp Thr Lys Ile Glu Val Ala
1 5

<210> 62
<211> 336
<212> DNA
<213> Chimeric Homo Sapien IL-13

<400> 62
ggccctgtgc ctccctctag cgccctcaag gagctcattg aggagctggc caacatcacc 60
cagaaccaga aggctccgct ctgcaatggc agcatggtat ggagcatcaa cctgacagct 120
ggcatgtact gtgcagccct ggactccctg atcaacgtgt caggctgcag tgccatcgag 180
cggaccacaga ggatcttgag cgccttctgc ccgcacaagg tctcagctgg gcagttttcc 240
agcttgctgtg tccgagacac caaaatcgag gtggcccagt ttgtaacgga cctgctcgta 300
catttaaaga gactttttcg ccagggaacg ttcaac 336

<210> 63
<211> 336
<212> DNA
<213> Chimeric Homo Sapien IL-13

<400> 63
ccgggacacg gagggagatc gcgggagttc ctcgagtaac tcctcgaccg gttgtagtgg 60
gtcttggctt tccgaggcga gacgttaccg tcgtaccata cctcgtagtt ggactgtcga 120
ccgtacatga cacgtcggga cctgagggac tagttgcaca gtccgacgtc acggtagctc 180
gcctgggtct cctagaactc gcggaagacg ggcgtgttcc agagtcgacc cgtcaaaagg 240
tcgaacgcac aggtctctgtg gttttagctc caccgggtca aacattgcct ggacgagcat 300
gtaaatttct ctgaaaaagc ggtcccttgc aagttg 336

<210> 64
<211> 747
<212> DNA
<213> Chimeric Homo Sapien IL-13

<400> 64
tacgtacatt ccgacggctc ttatccaaaa gacaagtttg agaaaatcaa tggcacttgg 60
tactactttg acagttcagg ctatatgctt gcagaccgct ggaggaagca cacagacggc 120
aactggtact ggttcgacaa ctcaggcgaa atggctacag gctggaagaa aatcgctgat 180

seqlist.txt

| | | | | | | |
|-------------|------------|------------|------------|------------|------------|-----|
| aagtgggtact | atttcaacga | agaaggtgcc | atgaagacag | gctgggtcaa | gtacaaggac | 240 |
| acttgggtact | acttagacgc | taaagaaggc | gccatgcaat | acatcaaggc | taactctaag | 300 |
| ttcattggta | tactgaagg | cgatcatgga | tcaaatgcct | ttatccagtc | agcggacgga | 360 |
| acaggctggg | actacctcaa | accagacgga | acactggcag | acaggccaga | aggccctgtg | 420 |
| cctccctcta | gcgcctctaa | ggagctcatt | gaggagctgg | ccaacatcac | ccagaaccag | 480 |
| aaggctccgc | tctgcaatgg | cagcatggta | tggagcatca | acctgacagc | tggcatgtac | 540 |
| tgtgcagccc | tggactccct | gatcaacgtg | tcaggctgca | gtgccatcga | gcggaccag | 600 |
| aggatcttga | gcgccttctg | cccgcacaag | gtctcagctg | ggcagttttc | cagcttgcgt | 660 |
| gtccgagaca | ccaaaatcga | ggtggcccag | tttgtaacgg | acctgctcgt | acatttaaag | 720 |
| agactttttc | gccagggaac | ggtcaac | | | | 747 |

<210> 65
 <211> 660
 <212> DNA
 <213> Chimeric Homo Sapien IL-13

| | | | | | | |
|-------------|------------|------------|-------------|------------|------------|-----|
| <400> 65 | | | | | | |
| tcctctcatt | cttctaacat | ggcgaacacc | cagatgaagt | ccgataaaat | catcatcgcg | 60 |
| cacaggggag | ctagcgggta | tctgcctgag | cacaccctgg | agtccaaggc | tctggcgctt | 120 |
| gcccagcagg | ctgactacct | ggagcaggac | ctggcgatga | caaaggatgg | ccgcctcgtg | 180 |
| gtgatccatg | accattttct | cgacggactg | accgacgtcg | ccaagaagtt | ccccaccgc | 240 |
| cataggaagg | acgggaggta | ttacgtgatt | gacttcaccc | tcaaggagat | ccagagcctg | 300 |
| gagatgaccg | agaacttcga | gaccggccct | gtgcctccct | ctagcgccct | caaggagctc | 360 |
| attgaggagc | tggccaacat | caccacgaac | cagaaggctc | cgctctgcaa | tggcagcatg | 420 |
| gtatggagca | tcaacctgac | agctggcatg | tactgtgcag | ccctggactc | cctgatcaac | 480 |
| gtgtcaggct | gcagtgccat | cgagcggacc | cagaggatct | tgagcgctt | ctgcccgcac | 540 |
| aaggctctcag | ctgggcagtt | ttccagcttg | cggtgtccgag | acaccaaata | cgaggtggcc | 600 |
| cagtttgtaa | cggacctgct | cgtacattta | aagagacttt | ttcgccaggg | aacgttcaac | 660 |

<210> 66
 <211> 399
 <212> DNA
 <213> Chimeric Homo Sapien IL-13

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 66 | | | | | | |
| tttaataatt | ttaccgttag | cttttggttg | cgtgttccta | aagtatctgc | tagtcattta | 60 |
| gaaggccctg | tgcctccctc | tagcgccttc | aaggagctca | ttgaggagct | ggccaacatc | 120 |
| acccagaacc | agaaggctcc | gctctgcaat | ggcagcatgg | tatggagcat | caacctgaca | 180 |
| gctggcatgt | actgtgcagc | cctggactcc | ctgatcaacg | tgtcaggctg | cagtgccatc | 240 |
| gagcggaccc | agaggatctt | gagcgcttc | tgcccgcaca | aggtctcagc | tgggcagttt | 300 |
| tccagcttgc | gtgtccgaga | caccaaatac | gaggtggccc | agtttgtaac | ggacctgctc | 360 |
| gtacatttaa | agagactttt | tcgccaggga | acgttcaac | | | 399 |

<210> 67
 <211> 399
 <212> DNA
 <213> Chimeric Homo Sapien IL-13

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 67 | | | | | | |
| tttaataatt | ttaccgttag | cttttggttg | cgtgttccta | aagtatctgc | tagtcattta | 60 |
| gaaggccctg | tgcctccctc | tagcgccttc | aagattctca | ttgaggagct | ggccaacatc | 120 |
| acccagaacc | agaaggctcc | gctctgcaat | ggcagcatgg | tatggagcat | caacctgaca | 180 |
| gctggcatgt | actgtgcagc | cctggactcc | ctgatcaacg | tgtcaggctg | cagtgccatc | 240 |
| gagcggaccc | agaggatctt | gagcgcttc | tgcccgcaca | aggtctcagc | tgggcagttt | 300 |
| tccagcttgc | gtgtccgaga | caccaaatac | gaggtggccc | agtttgtaac | ggacctgctc | 360 |
| gtacatttaa | agagactttt | tcgccaggga | acgttcaac | | | 399 |

<210> 68
 <211> 336
 <212> DNA
 <213> Chimeric Homo Sapien IL-13

| | | | | | | |
|------------|------------|------------|------------|------------|------------|-----|
| <400> 68 | | | | | | |
| gggcccgtgc | caagatctgt | gtctctccct | ctgaccctta | gggagctcat | tgaggagctg | 60 |
| gtcaacatca | cacaagacca | gactcccctg | tgcaacggca | gcatgggatg | gagtgtggac | 120 |
| ctggccgctg | gcgggtactg | tgcagccctg | gaatccctga | ccaacatctc | caattgcaat | 180 |
| gccatcgaga | agaccagag | gatgctgggc | ggactctgta | accgcaaggc | ccccactacg | 240 |

1251

1252

seqlist.txt

gtctccagcc tccccgatac caaaatcgag gtggcccagt ttgtaaagga cctgctcagc 300
tacacaaagc aactgtttcg ccacggcccc ttctaa 336